

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/087247 A3

(51) International Patent Classification⁷: A61M 25/06, 5/34

(21) International Application Number: PCT/US2004/008899

(22) International Filing Date: 24 March 2004 (24.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/457,345 25 March 2003 (25.03.2003) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

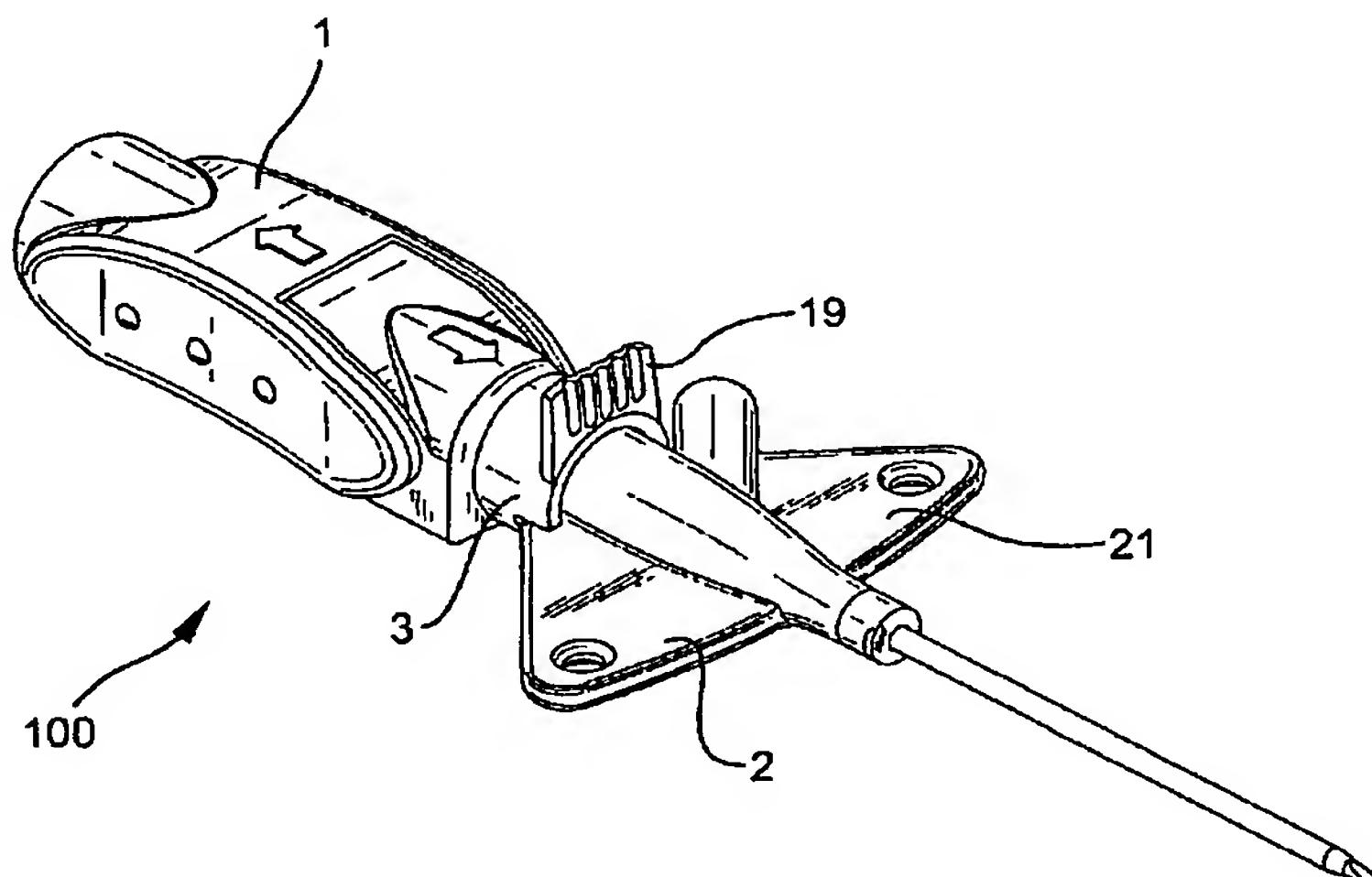
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

[Continued on next page]

(54) Title: IV CATHETER AND NEEDLE ASSEMBLY AND METHOD



(57) Abstract: An IV catheter includes a catheter having a wall defining a lumen, a proximal end, and a distal end. An adapter has a proximal end, a distal end and an internal cavity. The adapter is in fluid communication with the catheter lumen. A septum is positioned within the adapter cavity at the adapter proximal end. An extension tube extends laterally from the adapter and is in fluid communication with adapter cavity. A tip shield has a distal end, a proximal end and an internal cavity. The tip shield is positioned adjacent adapter proximal end and coaxially aligned with adapter. A hub has a proximal portion, a distal portion and an internal cavity. The hub is positioned adjacent the tip shield proximal end and is aligned coaxially with the tip shield. A cannula has a wall defining a lumen, a beveled distal end, an aperture in the wall of said cannula near the cannula distal end and a proximal end in the shape of a hook. The cannula passes through and is coaxially aligned with the catheter, adapter, tip shield and hub.

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(88) Date of publication of the international search report:
2 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/008899

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M25/06 A61M5/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
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EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT
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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/24092 A (MDC INVEST HOLDINGS INC ; HALSETH THOR R (US); BOTICH MICHAEL J (US)) 20 May 1999 (1999-05-20) page 13, lines 15-18; figures 9,10 -----	1-5, 23-29
A	WO 02/096494 A (BECTON DICKINSON CO) 5 December 2002 (2002-12-05) abstract; figures -----	1,23,26
A	EP 1 110 575 A (ETHICON INC) 27 June 2001 (2001-06-27) abstract; figures -----	1,23
A	GB 570 060 A (SAMUEL JAMES EVERETT) 20 June 1945 (1945-06-20) page 3, lines 38-55; figures -----	26-29

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

• Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the International search
30 November 2004

Date of mailing of the international search report
08 MAR 2005

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/008899

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/008899

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-5,23-29

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5,23-29

An IV catheter comprising a catheter, an adapter, a septum, an extension tube, a tip shield, a hub and a cannula having a hook shape in the proximal end. A method of making a cannula having a hook shape.

2. claims: 6-22

A method of making a needle assembly by using a glue for fixing the cannula to the hub.

3. claims: 30-35

A method of forming a medical needle by crimping the proximal end to create a fluid-tight seal at the proximal end.

4. claims: 36-50

An IV catheter comprising a catheter, an adapter, a tip shield, a hub and a cannula having a proximal end including a mechanical interlock within the internal cavity of the hub. A method of making a cannula having a mechanical interlock at the proximal end.
